

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (currently amended): A process for the blind demodulation of a linear-waveform source or transmitter in a system comprising one or more sources and an array of sensors and a propagation channel, said process wherein ~~being characterized in that it comprises at least the following steps :~~

[[• ]] the symbol period  $T$  is determined and samples are taken at  $T_e$  such that  $T = IT_e$  ( ~~$I$  being an integer~~);

[[• ]] a spatio-temporal observation  $z(t)$ , the mixed sources of which are symbol trains from the transmitter, is constructed from the observations  $x(kT_e)$ ;

[[• ]] an ICA-type method is applied to the observation vector  $z(t)$  in order to estimate the  $L_c$  symbol trains  $\{a_{m-i}\}$  that are associated with the channel vectors  $\hat{h}_{z,j} = \hat{h}_z(k_j)$ ;

[[• ]] the  $L_c$  outputs  $(\hat{a}_{m,j}, \hat{h}_{z,j})$  are arranged in the same order as the inputs  $(a_{m-i}, h_z(i))$  so as to obtain the propagation channel vectors  $\hat{h}_{z,j} = \hat{h}_z(k_j)$ ; and

[[• ]] the phase  $\alpha_{imax}$  associated with the outputs is determined.

2. (currently amended): The process as claimed in claim 1, ~~characterized in that~~ wherein the propagation channel parameters are estimated in order to determine the carrier frequency so as to compensate for the symbol trains in order to obtain them in baseband.

3. (currently amended): The process as claimed in claim 1, ~~characterized in that~~ wherein it includes a step of estimating the angle  $\theta_p$  and delay  $\tau_p$  parameters of the propagation channel.